



[0001] SYSTEMS AND METHODS FOR EXPEDITING THE IDENTIFICATION
OF PRIORITY INFORMATION FOR RECEIVED PACKETS

[0002] TECHNICAL FIELD

[0003] The present invention relates generally to communication systems and methods
5 and, more particularly, to systems and methods for facilitating the identification of priority
information and corresponding priority queues for packets received by a network device.

[0004] BACKGROUND ART

[0005] In computer networks, a number of network stations are typically interconnected
via a communications medium. For example, Ethernet 802.3 is a commonly used local area
10 network (LAN) scheme in which multiple stations are connected to a shared or dedicated serial
data path. These stations often communicate with a switch or some other network device
located between the data path and the stations connected to that path. The switch typically
controls the communication of packets and includes logic for receiving and forwarding packets
to their appropriate destinations.

15 [0006] Some conventional network switches provide different classes of service for
packets they route. The particular class of service to be provided to a packet may be identified
within the header of the packet. The switch typically uses the identified service class in
determining how to route the packet.

20 [0007] Conventional network switches sometimes include priority queues that buffer
information for packets that await transmission from the switches. The switches usually
include priority queues of a few priority levels, such as high and low priority levels. The
switches must, therefore, map the identified service class of a packet to the few priority levels
supported by the switches. The network switches typically use time-consuming processes to
identify the priority queues within the switches to receive packets of particular classes of
25 service. For example, the network switches may carry out the lookup of the priority
information from the packet in software, which is time consuming typically performed for
priority information not available at the layer 2 header on the packet.

[0008] DISCLOSURE OF THE INVENTION

[0009] There exists a need for systems and methods that facilitate the identification of
30 priority levels and priority queues for received packets. Systems and methods consistent with
the present invention address this and other needs by using programmed priority level